

Department of Defense
Project Manager - Mobile Electric
Power



Fall
Technical and Marketing
Conference
September 2005

Mr. Bob Szerszynski
DOD Project Manager - Mobile Electric Power



Presentation Outline

PM MEP Reorganization



Current Programs



Future Programs



Iraqi Freedom Lessons Learned



Hurricane Katrina Relief Support



Questions & Feedback





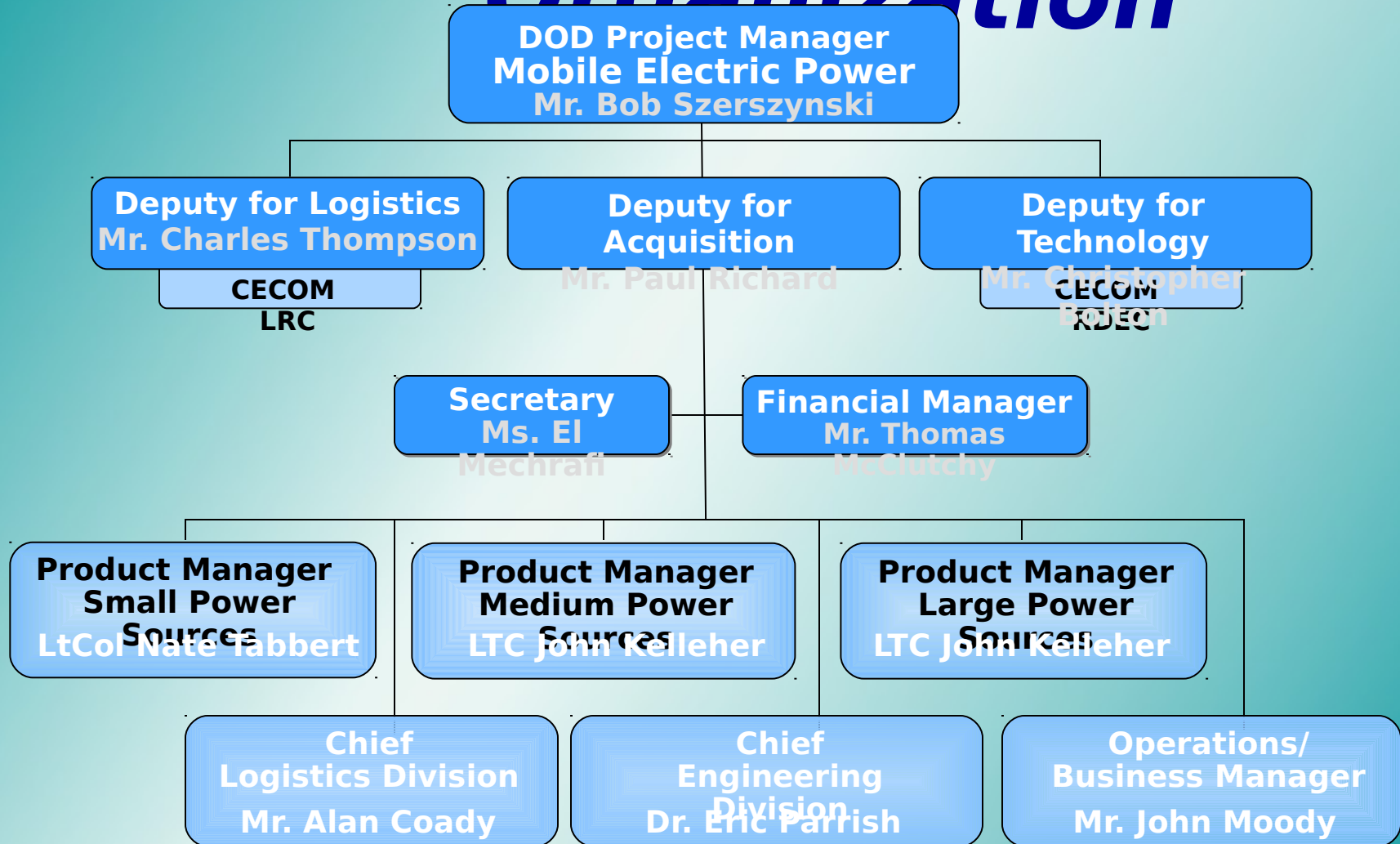
MEP Reorganization

- ◆ **Effective July 2005**
- ◆ **Project Manager Combat Systems Support (PM CSS)
Deactivated**
- ◆ **PM MEP Transferred from
Program Executive Office, Combat Support and
Combat Service Support (PEO CS&CSS)
to
Program Executive Office, Command, Control,
and Communications, Tactical (PEO C3T),
Fort Monmouth, NJ**
- ◆ **Product Manager, Test, Measurement, and Diagnostic
Equipment (PM TMDE) and
Product Manager, Sets, Kits, Outfits, and Tools (PM SKOT)
remained under PEO CS&CSS**
- ◆ **PM MEP Assigned Responsibility for
Environmental Control Units (ECU)**





PM MEP Organization





DOD Project Manager Mobile Electric Power Mission

Provide a Modernized Department of Defense Standard Family of Mobile Electric Power Generating Sources for All Services For Maximum DOD Component Use. Accomplish this Mission Through a Coordinated Inter-Service Effort to Develop, Acquire, and Support Mobile Electric Power Sources from Small, 0.5kW Manportable Generators to Large, 920kW and Greater Prime Power Systems.

Ref: DODD 4120.11

***Support for the Soldier, Sailor,
Airman, Marine***

JOP

**Army Regulation 700-101
AFJI 63-110
NAVFACINST 4120.12
MCO 11310.8C
DLAI 4120.11**

**Joint Operating Procedures
Management and
Standardization
of Mobile Electric Power
Generating Sources**





Current Programs

R & D

AMMPS
Fermont

Advanced Medium Mobile Power Sources

Onan/Cummins and

IECU

TBD

Improved Environmental Control Unit

Production

2kW MTG

Military Tactical Generator

Dewey Electronics

3kW TQG

Tactical Quiet Generator

Fermont

5kW 28VDC APU

Auxiliary Power Unit

Goodman-Ball

10kW Shelter-mounted APU

Auxiliary Power unit

Chenega

5kW, 10kW, 15kW TQG

Tactical Quiet Generator

Fermont

30kW & 60kW TQG

Tactical Quiet Generator

MCII

100kW & 200kW TQG

Tactical Quiet Generator

Fermont

DPGDS

Deployable Power Generation & Distribution System

Radian

DISE

Distribution Illumination System Electric Industries

UNICOR

Federal Prison



Near Term Business Opportunities

▮ 60k BTU Improved Environmental Control Unit (IECU)

- **Solicitation Released 14 July 2005**
- **Proposals Due 4 October 2005**

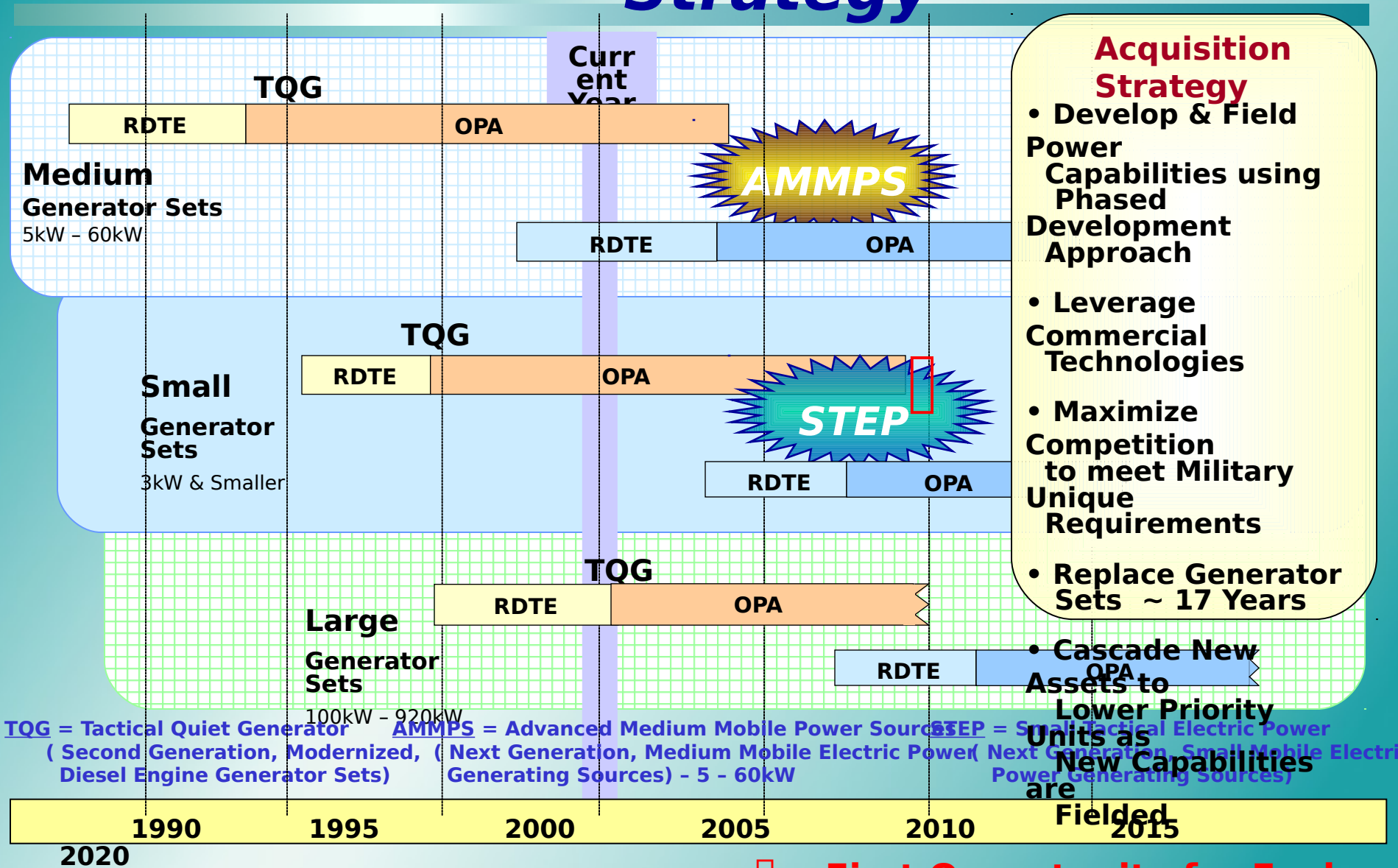
▮ 5kW 28VDC Auxiliary Power Unit (APU)

- **Solicitation for Reprocurement 3QtrFY06**

▮ 10kW Shelter Mounted APU

- **Solicitation for Reprocurement 3QtrFY06**

Power Source Modernization Strategy



1

First Opportunity for Fuel



AMMPS

Advanced Medium Mobile Power
Sources

Progra

m

Phase 0

Solicitation

Phase 0: Request for Proposals
Contractors submit proposals
FY04

Phase I

"Cost-Plus"

*Prototypes
and Testing*

Phase I: Award to up to 3
contractors
Build Prototypes
Prototype Testing
Test Reports
Evaluation Process

**FY05 -
20FY06**

Phase II

"Cost-Plus"

*Pre-Production
Units*

Phase II: Exercise Option to Single
Contractor
Pre-Production Unit Build
PPQT (Pre-Production
Qualification Tests)

3QFY06 -

Phase III

"Fixed Price"
Production

Phase III: Exercise Option **FY08**
First Production

**FUE (First Unit
Equipped) FY09**

Small Tactical Electric Power (STEP)



Stirling Engine

Technical/Performance

Power Output	0.5kW - 3.0kW
Hot & Basic Climate	-50°F to +135°F
Altitude Performance	Full rating @ 4,000ft, 95°F
	Operate up to 10,000 ft @ 95°F
Weight	142-293 lbs
Fuel Consumption	0.24-0.28 gph
Fuel	Diesel/JP-8
Noise	67- 72 dBA @ 7m (Silent Watch Capability)
Frequency	50/60/400 Hz/ DC ?
Reliability	750-1,250 hours
MTBEFF	



Microturbine

Objectives 2005

- Conduct Paper Study for Militarization of Stirling and Microturbine Technology
- Continue Testing of Procured Systems and Developed Power Electronics Module

me Bet

Program Schedule Goals

- 2006 - Release Draft Specification
- 2007 - Release Solicitation



Update to March 05 EGSA Minutes



Committee Minutes

Committee Name: GOVERNMENT RELATIONS
Date and Time: March 21, 2005 1:00-4:00

Topic	Discussion	
Conclusions Presentation by Ms. Kelly Alexander, Deputy Project Manger and Technical Director - US Army Project Manager Mobile Electric Power Office located at Fort Belvoir, VA.	Discussed the following: Overview of the Army Program Office Discussed plans and programs including: <u>Future</u> STEP Industry Day Sep/Oct 05 AMMPS Rebuy ~ 08/09 PMDS - Spec Available ~ Oct 05	Army plans to have an industry day in October to discuss the <u>next generation</u> of <u>Small Tactical Electric</u> <u>Power</u> 2 and 3kw generator sets. (STEP) The Army is testing a new Power Distribution Management System and is currently looking for commercially available sources of supply. (PDMS)

Updated STEP Information:

Industry Day

4QtrFY07

Award Phase I SDD/MS B 2QtrFY09

Award Phase II (Down Select)

1QtrFY10

Milestone C (Production) 4QtrFY11



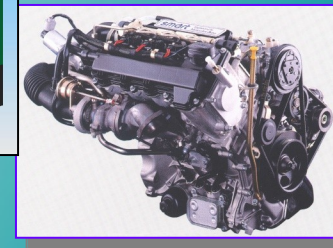
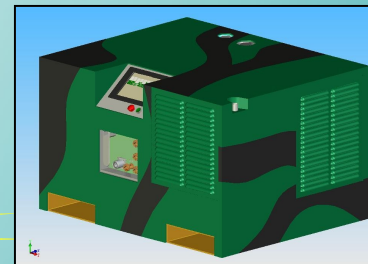
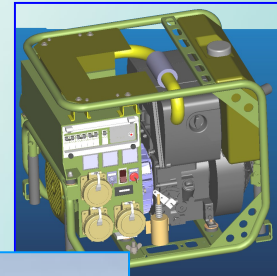
Future Programs/Technologies

- **Advanced High Speed Diesel Engines**
- **Permanent Magnet Alternators**
- **Advanced Environmental Control Systems**
- **Combined Power/ECU Systems**
- **Power Electronics & Digital Controls**
- **Composite Materials & Alloys**
- **Diagnostic & Prognostic**
- **Microturbines**
- **Battery technology**
- **Stirling Engines**
- **Direct Energy Conversion**

- Thermophotovoltaics

- Fuel cells

- **Technologies Must Satisfy Operational Needs**
- **Local generators (e.g. in a Shelter)**



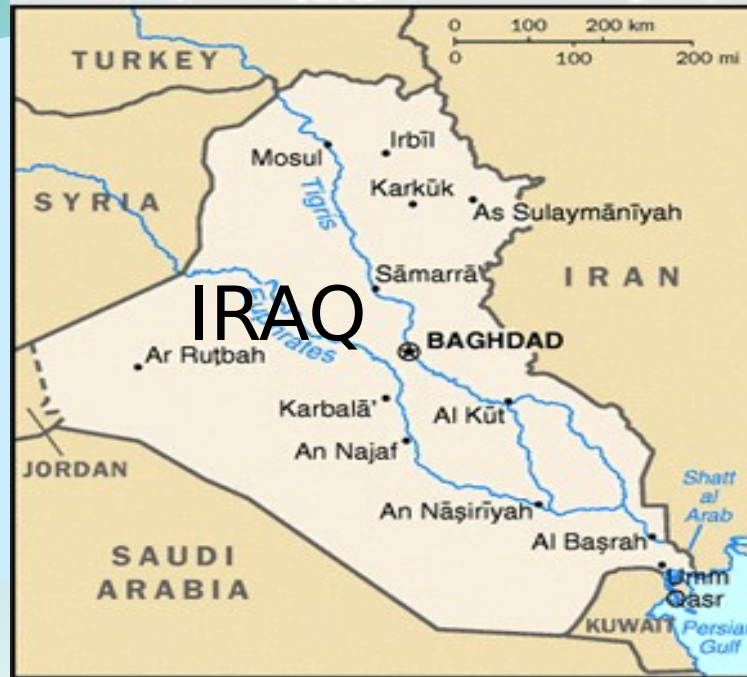
Project Manager Mobile Electric Power

OIF
Operation
n
Iraqi
Freedom



Observations

OIF
Operation
Iraqi
Freedom



Observations



Department of
Defense
Project Manager
Mobile Electric Power

Product Manager **MEP** Small Power
Sources

Product Manager Medium Power
Sources Product Manager Large
Power Sources

Harsh Environmental Conditions





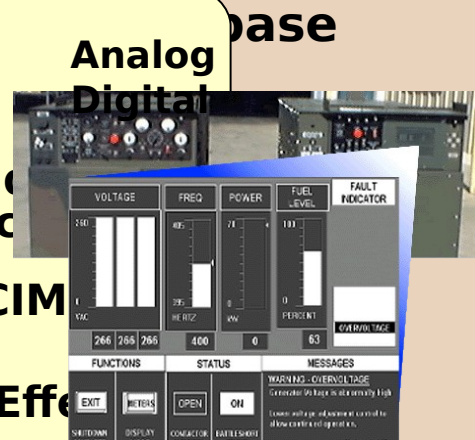
Iraq/Afghanistan Lessons Learned

- Power distribution - training/equipment/procedures
- High temperature operation critical
- Sand/dust impacts
- Solar loading (especially on displays)
- Preventative maintenance paramount (but not being done)
- Inadequate parts support -- sluggish
- Requirement for systems assessments

Environmental Impacts & MEP

Actions

- TQG Master Switch -
Developed Dust Proof Form, Fit, and Function Replacement Master Switch
- TQG Computer Interface Module (CIM)
Overheating Failures Resolved by Operational Techniques to Reduce Effect of Incoming Solar Radiation (Insolation) CI



M



Hurricane Katrina Relief Support

Hardware Provided by PM MEP

- 1 840kW DPGI
- 1 60kW TQG
- 10 10kW TQGs

Camp Shelby
and
Hammond
Airfield

Additional Generator Sets
are assigned to individual
Military Units supporting
the relief effort

PEO C3T
Forward Deployed Task Force

PEO C3T Personnel
One MEP Representative



Generator Sets at
Camp Shelby





Government - Industry Team

Every member of the Government - Industry Team is vital to the timely and successful provision of Tactical Electric Power to our Soldiers, Sailors, Airmen, and Marines as well as to the survivors of manmade and natural disasters. No matter how large or small your part, YOU are vitally important.

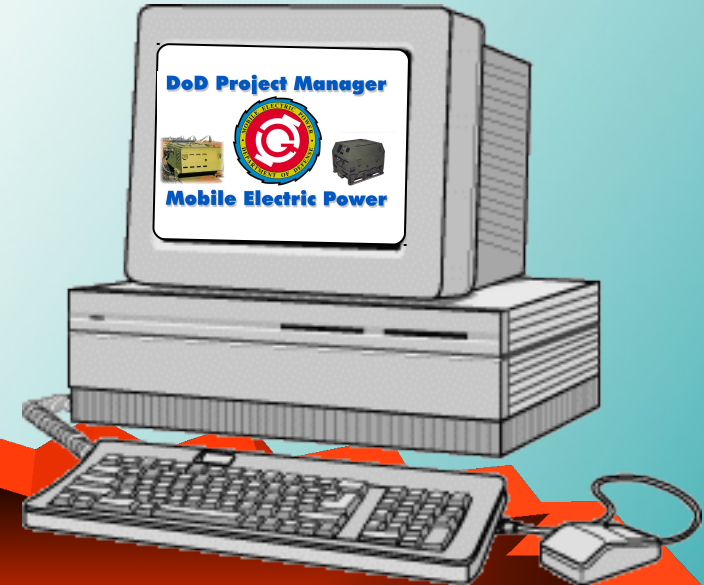
America's Power Team



PM-MEP *Home Page*

- DoD Directive 4120.11
- TQG Technical Data
- "What's New"
- Safety of Use Messages
- Organization and Points of Contact
- DoD Generator Master Plan
- Manuals, Tools, PLL/AS
- PS Magazine Articles
- References
(i.e. MIL STDs, ARs, etc.)

MORE !



***www.pm-
mep.army.mil***

***Comments / Recommendations
Solicited***



DoD Project Manager Mobile Electric Power Information / Points of Contact

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Product Manager (Large Generator Sets)

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Operations/Business Manager

Mr. Coady

